

Serial No. 09/744,373

Reply to Office Action of December 21, 2004

### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of correlating the an FcαRI induced function of intracellular calcium flux or interleukin-6 release or TNFα release of a cell in a host expressing FcαRI and cellular susceptibility to a disease with an FcαRI amino acid sequence, said method comprising:

identifying [[a]] said FcαRI genotype at nucleotide 844 corresponding to an amino acid sequence codon 248 of said cell for FcαRI alleles selected from the group consisting of: FcαRIa 87R/87R, FcαRIa 92D/92N, FcαRIa 132F/132L, FcαRI 245P/245L and FcαRI 248S/248G as being either glycine or serine;

quantifying [[an]] said FcαRI induced function selected from the group consisting of: FcαRI specific phagocytosis, oxidative burst and cytokine production by said cell expressing said FcαRI genotype; and

comparing FcαRI induced function by said cell and FcαRI induced function by a second cell, said second cell expressing a second FcαRI genotype at nucleotide 844 that corresponds to an alternate to said amino acid sequence codon 248, wherein correlation of the FcαRI induced function and cellular susceptibility to disease is indicated by a difference in FcαRI induced function detected by said comparing.

2. (Currently Amended) The method of claim 1 wherein said FcαRI genotype differs from further comprises a point mutation relative to said second FcαRI genotype by a point mutation.

3. (Canceled)

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4. (Original) The method of claim 2 wherein said point mutation is a frame shift mutation.

5. (Original) The method of claim 2 wherein said point mutation is a missense mutation.

Claims 6 and 7 (Canceled)

8. (Original) The method of claim 5 wherein said missense mutation is at codon 132 of said Fc $\alpha$ RI genotype.

9. (Original) The method of claim 5 wherein said missense mutation is at codon 245 of said Fc $\alpha$ RI genotype.

10. (Canceled)

11. (Currently Amended) The method of claim 1 wherein said host suffers from a disease ~~[[is]]~~ selected from the group consisting of: periodontal disease, cancer, viral infection, bacterial infection, systemic lupus erythematosus, systemic vasculitis, IgA nephropathy, rheumatoid arthritis, systemic sclerosis, dermatomyositis, Hashimoto's thyroiditis, inflammatory bowel disease and Sjogren's syndrome.

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12. (Original) The method of claim 1 wherein said cell is selected from the group consisting of: a neutrophil, a monocyte, a myeloid cell, and a mucus secreting cell.
13. (Currently Amended) A method for determining FcαRI alleles induced function of intracellular calcium flux or interleukin-6 release or TNFα release specific to an individual human, said method comprising: genotyping DNA encoding FcαRI for ~~a polymorphism affecting an FcαRI induced function selected from the group consisting of: FcαRIa 87R/87R, FcαRIa 92D/92N, FcαRIa 132F/132L, FcαRI 245P/245L and FcαRI 248S/248G~~ nucleotide 844 corresponding to a codon identity at codon 248 as being glycine or serine, said DNA being obtained from said individual human.
14. (Currently Amended) The method of claim 13 wherein said ~~polymorphism~~ FcαRI genotype at nucleotide 844 affects IgA binding by a FcαRI receptor.
15. (Currently Amended) The method of claim 13 wherein said ~~polymorphism~~ FcαRI genotype at nucleotide 844 affects signal transduction.
16. (Currently Amended) The method of claim 13 wherein said ~~polymorphism is~~ FcαRI genotype at nucleotide 844 corresponds to a single nucleotide polymorphism.
17. (Currently Amended) The method of claim 13 wherein said ~~polymorphism is~~ FcαRI genotype further comprises a microsatellite polymorphism.

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18. (Currently Amended) The method of claim 13 wherein said ~~polymorphism~~ is codon identity further comprises a splice isoform polymorphism.
19. (Canceled)
20. (Original) The method of claim 13 wherein genotyping utilizes PCR typing with a sequence specific primer for a polymorphic exon.
21. (Previously Presented) The method of claim 20 wherein said primer is selected from the group consisting of SEQ ID No. 1, SEQ ID No. 2, SEQ ID No. 3, or SEQ ID No. 4.
22. (Withdrawn) A method for correlating the ability of a cell to bind IgA, and cellular susceptibility to a disease, said method comprising:
- identifying a FcαRI phenotype of said cell;
  - quantifying IgA binding by said cell; and
  - comparing IgA binding by said cell to that of a second cell, said second cell having a second phenotype FcαRI.
23. (Withdrawn) The method of claim 22 wherein identifying said FcαRI phenotype utilizes amino acid sequencing.
24. (Withdrawn) The method of claim 22 wherein identifying said FcαRI phenotype utilizes glycosylate characterization.

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25. (Withdrawn) The method of claim 22 wherein identifying said FcαRI phenotype utilizes antibody binding.

26. (Currently Amended) A method of prognosticating a human ~~immunoresponse to a disease~~ CD89 expressing cellular response, said method comprising:

~~establishing a correlation between a FcαRI genotype for a FcαRI alleles selected from the group consisting of: FcαRIa 87R/87R, FcαRIa 92D/92N, FcαRIa 132F/132L, FcαRI 245P/245L and FcαRI 248S/248G and clinical outcome of said disease at nucleotide 844 as to A or G and a cellular response selected from the group consisting of: intracellular calcium flux, interleukin-6 release and TNFα release;~~

genotyping a patient for FcαRI to yield a patient FcαRI genotype at nucleotide 844;

comparing said FcαRI genotype with said patient genotype; and

~~determining clinical outcome for said patient~~ said cellular response based on said patient genotype, ~~wherein determining said clinical outcome is indicative of a human immunoresponse to a disease.~~

27. (Original) The method of claim 26 wherein genotyping utilizes PCR typing with a sequence specific primer for a polymorphic exon.

28. (Original) The method of claim 27 wherein said primer is selected from the group consisting of those shown in SEQ ID Nos. 1, 2, 3 and 4.

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29. (Original) The method of claim 26 wherein genotyping comprises purifying FcαRI expressing cells from said patient; extracting nucleic acids from said cells; and determining whether the nucleic acid encodes a predetermined polymorphic FcαRI nucleic acid sequence.

30. (Original) The method of claim 29 wherein the nucleic acid is selected from the group consisting of: RNA and DNA.

Claims 31-33 (Canceled)

34. (Currently Amended) A commercial package comprising reagents for identifying single nucleotide polymorphisms in a FcαRI genotype at nucleotide 844 as to A or G or phenotype for FcαRI alleles ~~selected from the group consisting of: FcαRIa 87R/87R, FcαRIa 92D/92N, FcαRIa 132F/132L, FcαRI 245P/245L and FcαRI 248S/248G~~ together with instructions ~~for use thereof as a test to identify individual susceptibility to a disease~~ as to glycine or serine at codon position 248 of a FcαRI amino acid sequence.

Claims 35-46 (Canceled)